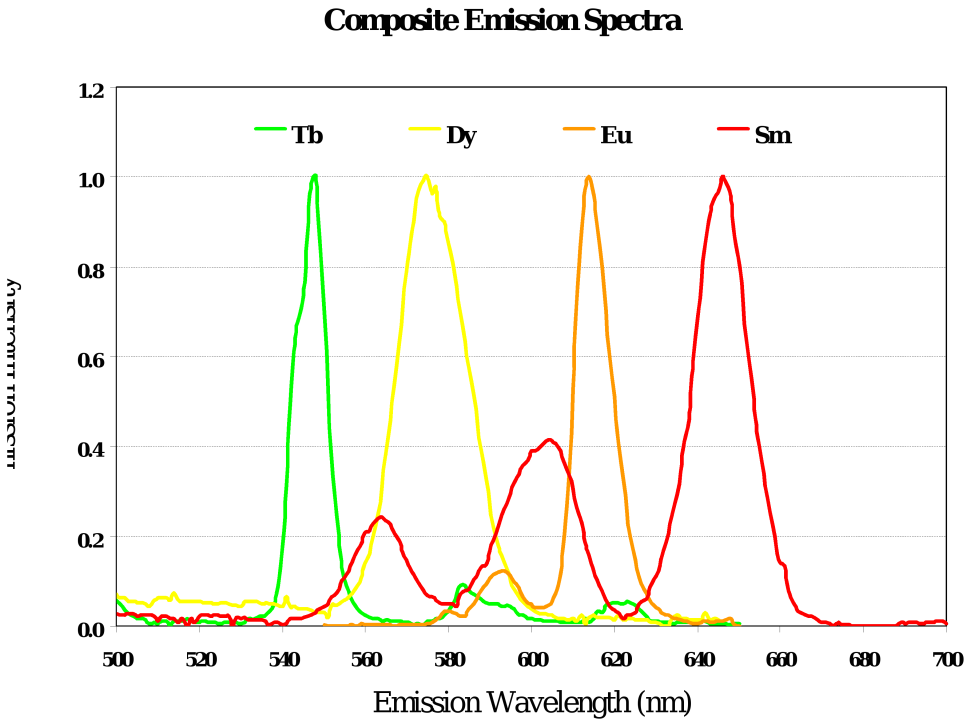
Fluorescent Rare Earth Chelates as Marking Materials



Composite fluorescence spectrum showing narrow band fluorescent emissions from chelated compounds containing terbium, dysprosium, europium, and samarium.

Objective

To explore and expand the feasibility of using chelated rare earth compounds containing chromophoric ligands as fluorescent marker materials

Approach

- Tailored photostability for time registration
- New chelating agents/chromophoric ligands for near-IR emission
- Multiple narrow band emission peaks for spectral coding

Payoff

Options for marking locations with time registered indicators of traffic

Progress

- Parameters established for 4 color NAWC WD marker
- New Nd-Curcumin complex for near IR emission

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